

ABSTRACT OF THE DISCLOSURE

A method of determining a rotor angle in a drive control for a motor, comprising the steps of (a) determining a rotor magnetic flux in the motor; (b) estimating the rotor angle on the basis of the rotor magnetic flux; and (c) correcting the estimated rotor angle on the basis of reactive power input to the motor. Step (a) may include the step of non-ideal integration of stator voltage and current values. Step (b) may include the step of correcting phase errors caused by said non-ideal integration via a PLL circuit with phase compensation (F). Step (c) may include the steps of (1) calculating a first reactive power input value as $1.5 \cdot W_e \cdot (C_{Lq} \cdot I)$ and a second reactive power input value as $1.5 \cdot (V_q \cdot i_d - V_d \cdot i_q)$; (2) determining a difference between said first and second reactive power input values; and (3) applying said difference to the rotor angle estimated in step (b) to obtain a corrected rotor angle. At higher motor frequencies, the estimated rotor angle is based on the rotor magnetic flux. At lower frequencies, it is based on a predetermined motor load model which is used in conjunction with a start-up sequencing logic circuit.